Review: WaveArts PowerCouple

by Rick Paul – *16th January 2003* –

Early in my multi-track recording days, I remember attending a "Recording 101" type presentation in the context of a larger songwriting exposition. One of the questions asked in that session was, after acquiring the basics, such as a multi-track tape recorder (yes, this was a while ago), a mixer, and some microphones, what were the most important effects to acquire -- the "must haves", if you will. I don't remember the specific priority orders the speaker listed, but I do recall that the top three were a compressor/gate, reverb, and equalizer (if not on the mixer already).

Wave Arts' PowerCouple bundle seems designed to meet just those needs in the PC DAW world, be it as a starter set of processors for someone who doesn't have such processors yet, or as an upgrade for the similar processors provided by a DAW vendor.

The Basics

PowerCouple combines the Wave Arts' Masterverb reverb with their TrackPlug channel strip (i.e. compressor, gate, and equalizer), thus delivering the basic set of processors used in most all multi-track recordings. Both DirectX and VST format plug-ins are provided, and both formats are fully automatable in DAW packages that support the applicable formats and capabilities. For SONAR users, the most convenient format will DirectX, and all PowerCouple plug-in parameters are automatable within SONAR via SONAR's support for DirectX 8 automation.

Copy protection in the V3.03 PowerCouple plug-in releases reviewed here consists of a simple serial number, rather than the machine ID-based challenge-response mechanism used in Wave Arts' earlier releases. Kudos to Wave Arts for listening to their customers' feedback on this issue, and trusting their customers enough to use this type of mechanism. Since Cakewalk's SONAR introduced a similar mechanism in SONAR 2, and users of SONAR and earlier Cakewalk products are particularly vocal about intrusive copy protection mechanisms, one might wonder if this was a specific overture to SONAR users. Whether it was or not, though, comments on this development in the SONAR newsgroup have been extremely favorable, and I can't help but think this has benefited Wave Arts' plug-in sales.

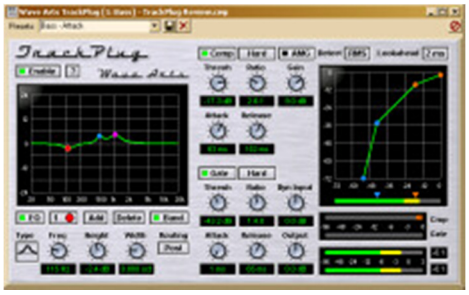
At $199.95 for the bundle, which represents a savings of $79.95 of the cost to purchase both TrackPlug and MasterVerb individually (upgrades from TrackPlug and MasterVerb are also available for $70 and $50, respectively), PowerCouple is not in the bargain basement plug-ins category. Neither is it up there with Waves and TC Works, though, coming in at roughly 60-70% of the list prices of those high-end products on an average cost per-plug-in basis. Retail distribution and discounting of those high-end competitive products (e.g. one of the places I've purchased audio products for the PC on several occasions currently sells the Waves Renaissance Collection, which bundles similar functionality to PowerCouple, for $219) make the price levels significantly closer, though, so sound quality will be of strong importance to the class of users Wave Arts will necessarily be targeting. A 30-day evaluation period makes it very convenient for potential PowerCouple users to make up their own minds on that count by putting the plug-ins to work in the context of one or more of their recording projects.

Let's get to the details of the plug-ins.

TrackPlug Refresher

TrackPlug is a channel strip plug-in with an up-to 10-band equalizer and a dynamics section which includes a

compressor and an expander/gate. A detailed review of TrackPlug appeared on cakewalknet.com in late September 2002, and anyone interested in getting in-depth with TrackPlug is invited to read the review.



For those who either already did read the review or would prefer the abbreviated version, suffice it to say that TrackPlug's processors are of the clear/transparent variety, not the type used to color the sound of the material they are processing, and CPU usage is economical. Thus, if you are looking for clean EQ, compression, and/or gating, especially for lots of tracks in a big mix, TrackPlug deserves a look.

It is also worth noting that Wave Arts made one useful enhancement to TrackPlug since the original review was published. In V3.02 of TrackPlug (i.e. the version reviewed), the effects of selecting different "knee" settings for the compressor and gate components of TrackPlug's dynamics processor section were not visible on the dynamics graph. With V3.03, the effects of the knee setting are visible on the graph.

Beyond that, my impressions of TrackPlug still stand after a few more months of using the plug-in. Thus, I'll spend most of the rest of this article focusing on MasterVerb.

MasterVerb Overview

MasterVerb is a true stereo reverb with an interface that immediately lets you know it's kin to TrackPlug. Anyone who is familiar with operating TrackPlug will be instantly at home with MasterVerb, and vice-versa.

We'll get into the details of MasterVerb's controls below. What is most striking when MasterVerb comes up, however, are two relatively sizable graphs that take up a large portion of MasterVerb's user interaface real estate.

The largest of the two graphs is the reverb characteristic plot, and is located in the center and center-right portion of the screen. It provides a conceptual visualization of how the current settings of MasterVerb will affect its output with respect to audio level over time across the frequency spectrum for 100% wet output.

The smaller graph, on the left side of MasterVerb's interface, shows Masterverb's decay time and room size parameter, and allows manipulating both of these with a single mouse movement. It also provides green and red indicators to give the user an idea of what settings go together sensibly for "natural" settings (i.e. green) and for "more colored" or "extreme" responses (i.e. red -- Wave Arts gives the examples of a drainpipe or concrete stairwell).

Taken together, these graphs provide useful visual indicators to help make setting MasterVerb a bit more intuitive.

Wave Arts suggests that the best general approach to using MasterVerb (and TrackPlug, too, for that matter) is to insert the plug-in, find a preset that closely matches your needs, do any quick tweaks, then go on making your music. In fact, 33 presets are provided with MasterVerb to cover a fairly wide variety of situations from the usual suspects (e.g. "Small Room", "Concert Hall, Warm", "Studio, Bright") to the truly head-scratching (e.g. "Oil Drum", "Thud Verb", "Menace Verb"). Curiously absent are functionally-named settings such as for vocals, drums, and other uses where a different reverb from a stock "room" may be brought into play. That doesn't mean MasterVerb isn't applicable to those uses, of course. You may, however, find yourself doing a little more tweaking from the presets in some of those cases. Speaking of tweaking....

MasterVerb Controls

MasterVerb provides most of the most commonly found reverb controls, though it labels a few of those a bit unusually, provides slight twists on some of them, and is by no means the most tweakable plug-in reverb out there.

What is there includes a wet/dry control, pre-delay (0-250 ms), decay time (500 ms to a whopping 60 seconds!), room size, and diffusion. There is also an output level attenuator (-12dB to +12dB), which can work in conjunction with right clicking the output level meters to prevent overloads and normalize the MasterVerb signal. Simply clear the output level meters by double clicking their peak hold indicators, play the song or section of audio for which you wish to normalize MasterVerb's signal, then right click on the peak hold indicators. This will automatically adjust the output level control to compensate for the signal level being put through MasterVerb and MasterVerb's processing of that signal to result in normalized (to -0.1dB) output from MasterVerb. This is a nice touch for situations where MasterVerb is being used on a track insert.

Wave Arts labels its high frequency rolloff and high frequency damping controls "early damping" and "late damping", respectively. The idea is that the early damping control (20 Hz to 20 kHz) sets the cutoff frequency for a lowpass filter at the input of the reverb, thus determining whether the reverb is dull and muffled or bright and crisp. The late damping control (20 Hz to 20 kHz) sets the cutoff frequency for the damping filter in the reverb, thus providing the possibility of approximating the effects of different wall surface materials within the room.

MasterVerb's low frequency scale control (25% to 400%) sets the decay time of frequencies below 250 Hz relative to the decay time at 500 Hz. While this is not as flexible as reverbs that have low damping controls with a tunable crossover frequency, it can nevertheless help reduce rumble of low frequency sounds or warm up the reverb signal.

The controls MasterVerb provides will do for most purposes. However, higher end reverbs, and even a few of the less pricey ones, do sometimes provide more flexibility, such as in fine tuning high and low frequency rolloff levels, providing more control over crossover frequencies, especially on the low end, and controlling the balance of early reflections and reverb signals. Hard core tweakers may miss some of this control, and the lack of early reflections balance control may be especially notable due to one specific sound attribute of MasterVerb that differed significantly from all the other plug-in reverbs I tried alongside it.

MasterVerb Sound

Pretty graphs and controls are all nice, but the bottom line with any kind of audio plug-in is how it sounds. Of course, that is a very subjective question, and personal preferences, styles of music, and more can all come into play. Those caveats aside, I think it is fair to say that MasterVerb is capable of professional results, is better at some things than at others, and, as with most any plug-in reverb, has its own character, which may or may not ideally suit a particular user's tastes and specific application context.

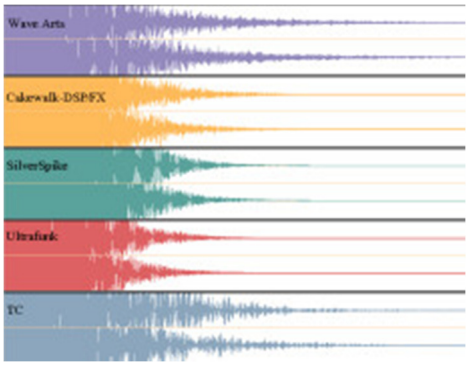
One of my favorite things to do when trying out a new reverb is to put some kind of sound through it, most often a vocal, then just run through presets to check out what the designers thought showed off their product. MasterVerb's presets do an excellent job of showing it off, in part because they don't have the same kind of overkill on wet level that most other plug-in reverbs' presets do. What I found somewhat curious, though, was that, looking at the preset parameters of the various reverbs I tried (see below), most had the wet/dry control set in the 30-40% wet range, while all MasterVerb's presets were set to 50% wet. Yet MasterVerb sounded noticeably drier. How could that be?

Doing some further testing, I set all the reverbs as similarly as possible given their differing sets of controls, and all at 100% wet. I noticed that MasterVerb still sounded noticeably "drier" than all the others, despite being at 100% wet. Querying Wave Arts on this phenomenom, their best guess was that MasterVerb may have a higher early reflections to reverb tails energy ratio than the others. The balance between early reflections and reverb signal is not adjustable in MasterVerb, but by raising the early reflections level in a few of the reverbs that did feature independent level adjustments in this area, I was able to more closely approach the "drier" 100% wet sound that MasterVerb was getting.

This "drier" wet sound, while different from the other reverb plug-ins, is not a problem per se. It does, however, make it a little more cumbersome to try out different reverbs to see which will best do the job at hand, especially when the reverb will be used on an aux bus, since send and return level adjustments, and possibly also direct signal adjustments, will have to be made to accommodate MasterVerb's drier sound. It is a little easier when the reverb will be used on an insert since the wet/dry control can be used to compensate.

My next test was to put each reverb on its own aux bus, with similar settings on each, for use in processing a snare drum hit. The setting chosen for this test was based on a SilverSpike Reverb.it preset intended for snare drum, and most likely intended to provide a bit of "air" in the processed signal. As such, it did not engage high frequency damping, though it did engage the lowpass filter at input with crossover at 4.4 kHz. I was listening for both the smoothness of the reverb tails and any other characteristics imparted on the overall sound.

The reverb plug-ins being compared were SONAR's own FxReverb (which is basically DSP/FX's StudioVerb with a face lift), SilverSpike's Reverb.it, Ultrafunk's Sonitus fx:reverb, and TC Works' Native Reverb Plus (demo version only). The differences in sound between the various similarly set reverbs were not terribly subtle.



As the partial screen shot (enhanced with text labels to make clear which reverb is which) above shows, the almost identical decay time settings don't even result in the tails' ending in the same place in all the reverbs. The nature of the tail's shape and length falls into two distinct groups, with the Wave Arts and TC reverbs being in one group and having a more linear shape, while the Cakewalk-DSP/FX, SilverSpike, and Ultrafunk are in the other with a somewhat more exponential shape.

Within the groups, though, the sounds were still very different. For example, while the direct sound was identical in all three cases, differences in the early reflections portion of the reverb sound mixed with the direct sound in most cases to result in significant differences even in the early portion of the sound, adding considerable midrange "beef" to the sound with both the Cakewalk and SilverSpike reverbs, a bit more treble with the Wave Arts and SilverSpike reverbs, and maintaining a sound much more similar to the direct sound with the Ultrafunk and TC reverbs.

As the sound evolved into the reverb tails, differences became even more pronounced. The Wave Arts had a long, steadily decaying tail, but with a hint of a metallic shake somewhat reminiscent of a spring reverb as the direct sound and early reflections gave way to pure reverb tails. The TC reverb's response was perhaps the closest to MasterVerb's in terms of providing a long, steady decay, but with a smoother, warmer sound with no hint of a metal. The Cakewalk-DSP/FX reverb was somewhere in between, with a colder sound than the TC, but a warmer sound than the Wave Arts and a much more abrupt decay than either, though I would still characterize it as reasonably smooth. SilverSpike's reverb did not have the shake of Wave Arts' tail, but did have perhaps an even more metallic character, perhaps owing to the increased treble content in the early reflections. The Ultrafunk reverb's tail was relatively trebly, but not metallic sounding.

To put it another way, if I were to characterize the overall sound of each processed clip based on what parts of the snare drum were most evident, the TC mostly brought out the wood, the Cakewalk-DSP/FX brought out wood and snares relatively equally, the Wave Arts was mostly snares with a little wood, the Ultrafunk was mostly head plus a bit of snares, and the SilverSpike felt like a looser head plus snares. Which was best? That is pretty subjective, and would depending on what you were going for in the context of the overall mix. What sounds best solo often isn't the best thing in the mix, for example as it may take up too much space in the mix.

Bundling Up

As part of my preparation for writing this review, I did a rough mix of one of my song demos-in-progress, using the PowerCouple modules wherever applicable in lieu of the plug-ins I might have otherwised used. The mix involved three separate instances of MasterVerb on aux buses -- one for the vocal, one for drums (a stereo mix of a dry

acoustic kit), and another for the rest of the instrumental parts (bass, acoustic guitar, electric guitar, and 60's-style pop organ). I used six instances of TrackPlug on individual tracks, plus one ahead of the drum reverb to roll off some bass going into it.

Since I was in a hurry -- after all, it was a rough mix -- I mostly picked presets that seemed applicable, then made minor tweaks if necessary. Perhaps this wasn't the optimal way to test the PowerCouple suite in that spending more time with the mix might have resulted in some different decisions on settings. However, the bottom line was the mix sounded at least on par with others I've done, and probably a bit clearer since my general preferences tend to lean toward plug-ins that color the sound a bit more than Wave Arts' plug-ins do. (I should confess I did strap PSP VintageWarmer across the mix bus to at least give in somewhat to my inclinations in this area.)

One point that may not have been obvious from the above is that putting several native reverbs, plus a number of native EQs, compressors, and gates on a project can add up to a fair amount of CPU consumption in the general case. However, one of Wave Arts' claims to fame, besides having plug-ins that lean toward the clean and transparent end of things, is designing plug-ins that are extremely friendly on the CPU front. In my reverb tests MasterVerb consistently consumed less CPU than any of the other reverbs set to similar settings, sometimes significantly less, and I've already reported my detailed findings on TrackPlug in this area in the above-mentioned review of that plug-in.

If you are looking for a set of basic effects of the clean and transparent variety, PowerCouple warrants a try. Wave Arts' generous 30-day evaluation period makes it easy to do this in the context of one or more real projects, and that is the only context that really counts.

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